

# ***WORLI KOLIWADA:***

## ***DENSITY FOR THE PEOPLE***

**An Honors Thesis (HONR 499)**

by

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## ABSTRACT

This thesis presents the work of an international design competition, undertaken during the final architecture studio. Named for its location, *Worli Koliwada*, is a housing development proposal adjacent to a small, densely-packed fishing village in a historic section of Mumbai. A focus throughout this project has been to consider the role of the architect in marginalized communities.

## ACKNOWLEDGEMENTS

*There are many people I would like to thank who have helped me with this thesis project.*

*Firstly, I would like to thank my thesis advisor and studio professor, Timothy Gray, who simultaneously challenged my thinking and supported my decisions during the design stage. He helped me push and refine my ideas into a socially-conscious, yet provocative proposal.*

*Secondly, I would like to thank **arch out loud** for hosting the RESIDE design competition and offering the opportunity for designers everywhere to think critically about issues surrounding housing in Mumbai, India.*

*Additionally, I would like to thank professors and mentors who have inspired my interest in India; Dr. Wes Janz and Dr. Nihal Perera, who have each shared with me their personal collection of reading material and wealth of knowledge from working in India. I would also like to thank Mitul and Pranathi, the two graduate students I consulted during the design phase of the project, for enlightening my naïve American self with realities of life in India.*

*Finally, I would like to thank the Honors College for providing this opportunity to engage in this creative thesis project.*

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## PROCESS ANALYSIS

*Much of my design process follows from my ongoing interest in India's rapid growth and the resulting informal communities.*

*I reflected back on previous studio projects: a radical criminal justice center in Indianapolis that abolished the process as we know it, a high-rise in Melbourne's Central Business District that provoked hybridity both architecturally and socially, a mapping study that sought to understand place-making in Aboriginal communities.*

*My interest in India has increased in the last year, following an intense period of research while developing a Fulbright proposal. Prior knowledge of the culture and its informal communities in the rise of urbanization drew me to the project.*

*As with the aforementioned projects, the design phase was supplemented with intensive research, trying to understand a place to which I had never been and a life I have never lived. I have never been as passionate about a project as I was when working on Worli Koliwada. Fascinated and humbled by the chance to submit a design to a competition that challenged my thinking about social and environmental issues, I reached out to friends and mentors who had experienced life in India.*

*I was inspired by the work of several socially-conscious designers, including the humble British-Indian architect Laurie Baker, who built brick structures with local materials and construction "for people... not for classes" (Kennedy 2015). I took an approach that had two parts: a 'realistic' proposal for housing and a metaphoric statement piece to suggest a broader approach to mixed-income relations.*

## DESIGN INTENT

*By making design socially considerate and provocative, it can facilitate a more equitable approach to living. In Mumbai, the inequality is such that it creates separate cities within the larger one. Many of the urban, low-income villages have their own culture and economy, and the conditions are such that more than half of the Mumbai population lives in slums, where people often do not have access to toilets and space and material are limited.*

*However, these conditions have been adapted into part of the culture and should not be removed entirely, if at all, for that would threaten the way of life of the people. Slum rehabilitation or elimination efforts by outsiders are never successful. The creativity, talent, and ingenuity of Indians in such informal settlements must be valued and celebrated in any new development so that the spirit of the people is not lost.*



## INTRO: MUMBAI



***"Mumbai, allegorically speaking, is actually two cities...  
The 'haves and have-nots' are within the same geographical  
territory but occupy entirely different economic, physical, and  
social spaces."***

*-Mumbai Human Development Report, 2009*

....

*Mumbai is one of the largest cities in the world, but it is also one of the poorest. More than 60% of the population lives in slums (RESIDE). This socio-economic disparity is only perpetuated by the physical and social segregation throughout the metropolitan area.*

*Open green space is rare in a place so dense; in Mumbai, urban public space continues to disappear. Part of the RESIDE Competition challenge was to provide open space and encourage a mixture of incomes and classes to live in the Worli Koliwada.*

*But firstly, notice the density of the context of Mumbai, particularly in land use adjacent to the site. Such tight urban growth is what informed the development of the site to be similarly dense.*



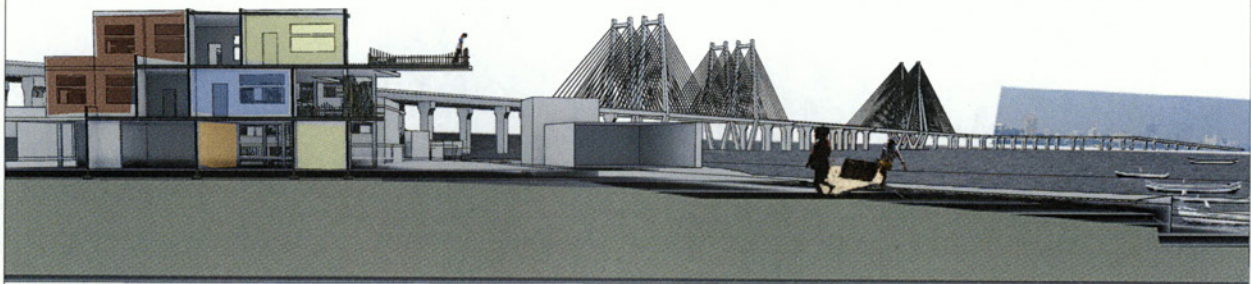
## INTRO: THE SITE

*The RESIDE housing project is located on the peninsula in Worli Koliwada, with the very tip covered by the newly constructed Bandra-Worli Sea Link Bridge. The passage of more than 37,000 vehicles each day on the bridge has brought sudden attention to the small fishing village (RESIDE).*

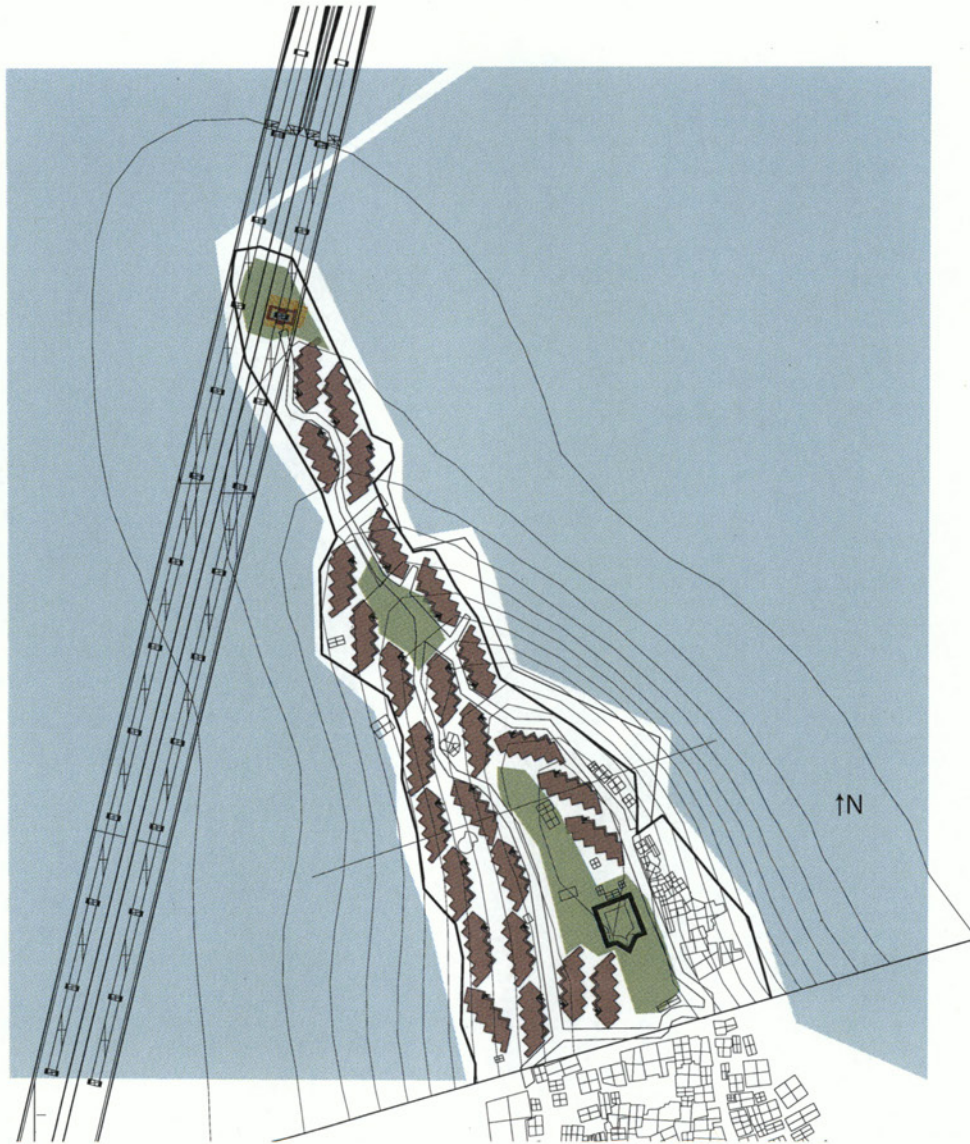
*In the fisher community of Worli Koliwada, the vibrance of street markets and venders is mixed with scenes of boat cleaning and repair. Preserving this unique street culture is of upmost importance in this proposal, which seeks to use local materials and keep the scale of housing close to the street. Doing so will also leave views between Worli and the Sea Link Bridge unobstructed. Such views will draw members of the middle-income group to explore the Worli tip.*

*While the Kolis originally relied on fishing intake only, declines in annual catch have pushed the people to consider additional means of income. Within tight, shared spaces, Kolis have infilled small market stands, crowding the narrow streets, but giving further purpose to lower levels of their homes.*

SE SITE SECTION



## SITE PLAN



*In forming the master plan, all structures were clustered in seemingly irregular patterns to match the organic, informal patterns of surrounding areas. The smallest gap between buildings is roughly ten feet – quite wide compared to the nearby Koli houses. Open spaces for festivals such as Holi surround the historically significant Worli Fort and aim to balance the density of built structures.*



## BRIDGING THE DISTANCE



*The guiding concept of this design was to bridge the economic gap between income groups in Mumbai. Literally, there is the geographic gap across the bay between Bandra and Worli Koliwada; but there is also the economic gap between the Koliwada and the rest of the Worli village to the south.*

*Following the example of residents of the slums Dharavi and Asalpa, one way to do this is through the generation of an independent economy within the village (Reuters 2018). Worli Koliwada already has its own fishing economy, but for further development to sustain while attracting residents from outside the Koliwada, an altered system might be in place.*

*The location on the tip of a peninsula looking into the city provides ample opportunity for tourism, highlighting the viewpoints from the site. Celebration of this attraction point would have a similar effect as painting murals did for the economy of Asalpa, which has been booming with new opportunities that frequent visitors provide. The change of wall colors also changed the way the slum and its residents were viewed, and inspired them to take pride in their homes (Reuters 2018).*

ASALPHA,  
now called the Positano of India



Reuters. (2018). [Asalpa].

## HIGH DENSITY - LOW RISE

*In an effort to maintain the street culture of the Kolis, it was important to keep the buildings close to the ground, rising between three and five levels above ground. Open spaces on the ground floor are open to public use; for markets, boat storage and repair, and public toilets.*

*Lower buildings are also less invasive to the koliwada and would limit gentrification compared to a tall tower. Additionally, an ordinance in Mumbai would prevent any development taller than five stories on the peninsula, as such vertical growth would block views for residents in middle-income towers to the south.*

*Sightlines between Worli and the Sea Link Bridge will also remain unobstructed. Such attractive views will draw members of the middle-income group to reside in and visit the Worli tip.*

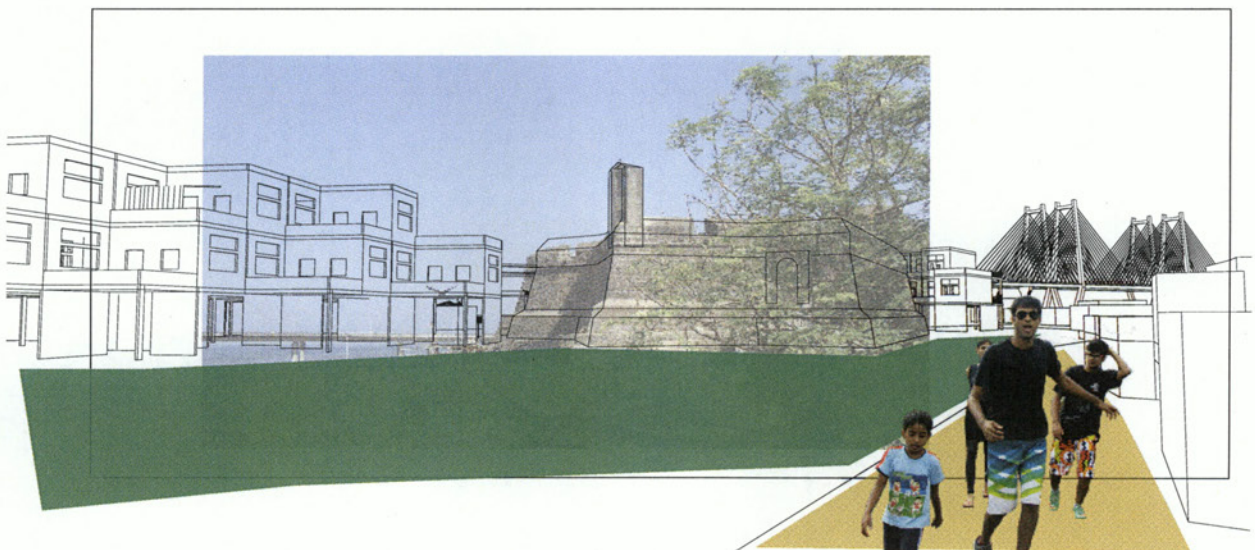
### TERRACE VIEW





*Worli Fort was featured in the popular Coldplay music video "Hymn for the Weekend," showing the life and color of the annual Holi Festival. It was important to preserve this spirit and keep the housing close to the human scale so as not to overshadow the Fort nor the people who inhabit and visit the space.*

## PRESERVING HISTORY

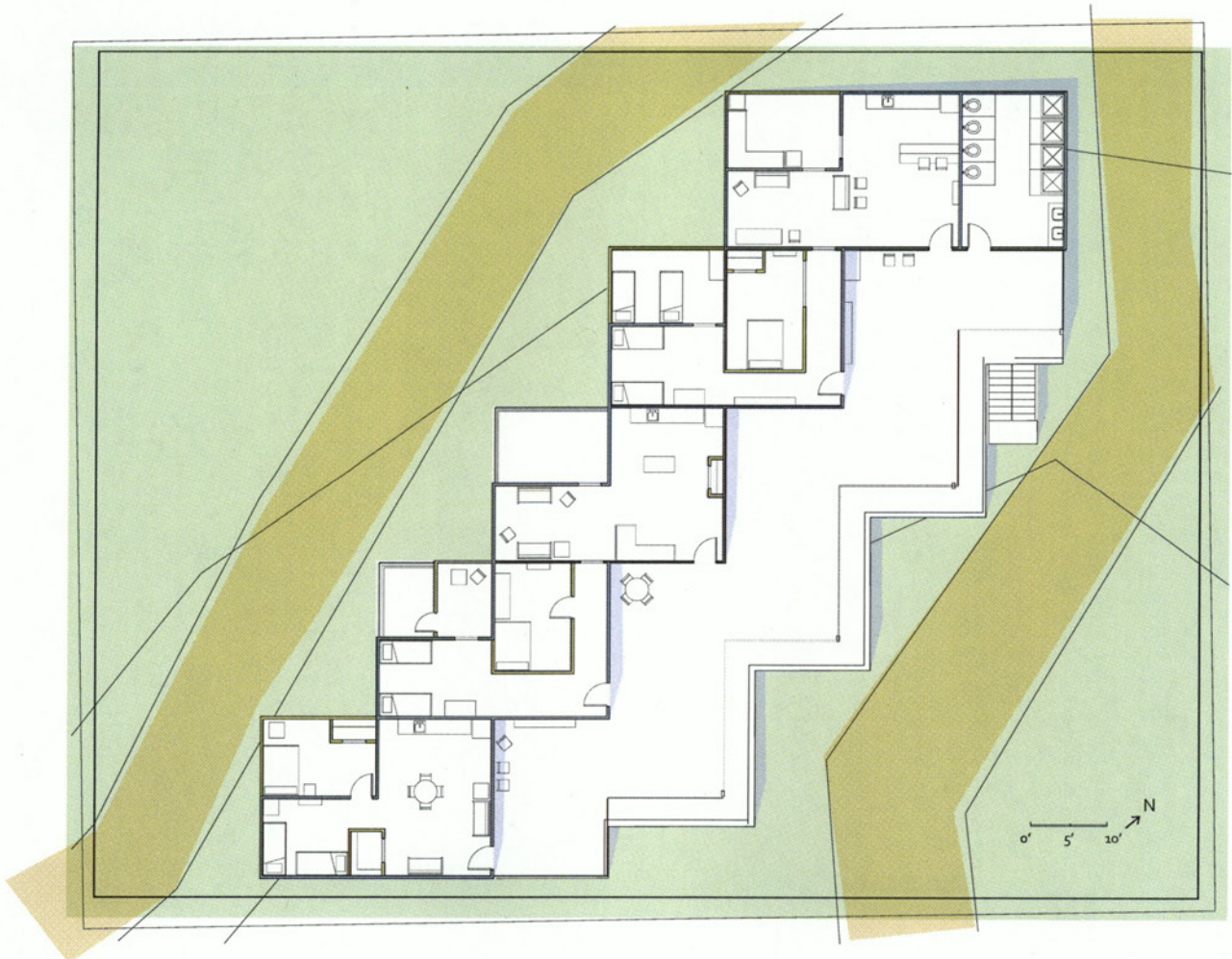


## EQUITY IN HOUSING

*Like the work of Laurie Baker, these housing units provide a simple structural base for personalization and continued informal development, not confined by the frame, but empowered by it, with certain levels of control and ownership in each unit. In order to maintain the spirit of growth, the design seeks to generate continuity with the existing, adjacent Worli Koliwada.*

*Every person deserves the right to equitable housing, so the proposal challenges the competition requirements for separate housing options for the different income groups; instead, the design presents units of the same size and finish quality. Each single unit includes a private terrace space to personalize with self-building, and communal bathrooms are located on each floor.*

SAMPLE FLOOR PLAN





*Units and buildings are designed to provide the bare minimum structural needs, while supporting development by the residents. Their unfinished nature is a chance to personalize one's own home within a small community.*

*Though residents are from diverse cultural and financial backgrounds, **all units will be of equal or comparable size and quality**; for it is the hierarchy of wealth and unequal opportunities that suppresses the reluctant slum-dwellers to their areas of unwelcome living.*

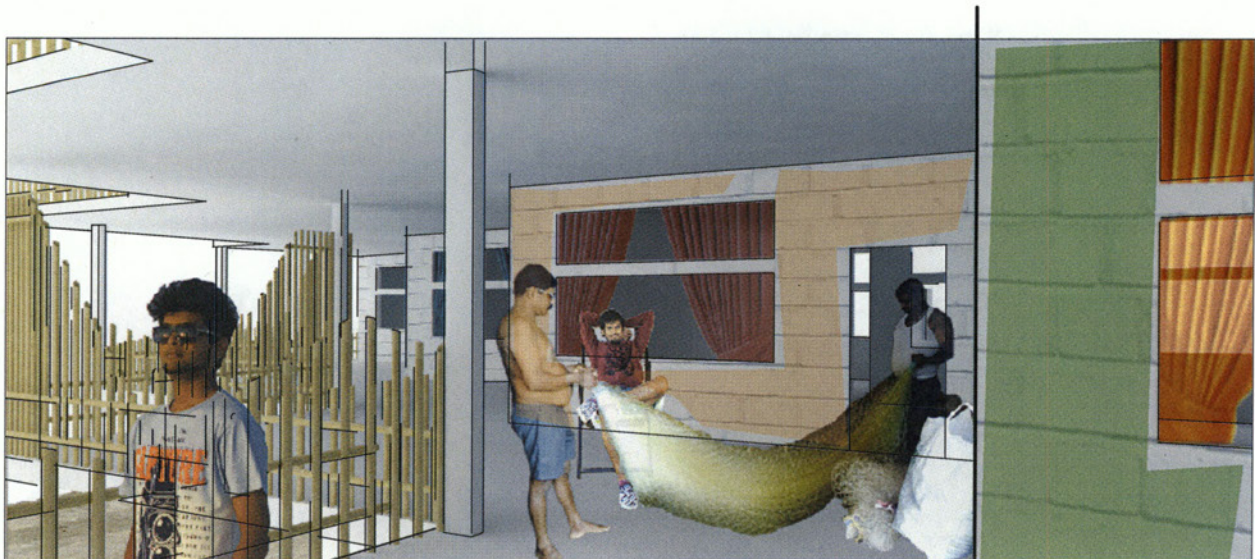
## INTERIOR UNIT



*Despite the reputation the word 'slum' brings to mind, Mumbai's informal settlements are the lively homes to an eclectic people whose culture is at risk of being lost in modernity.*

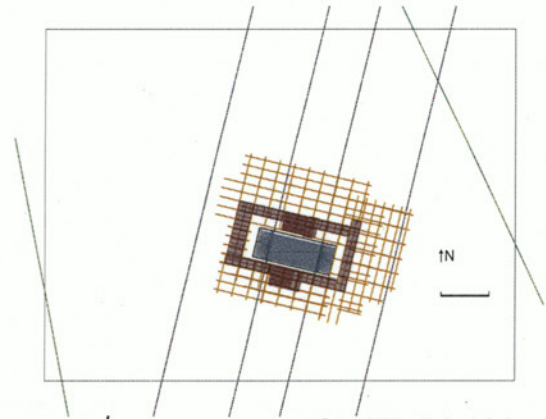
*While private space is important, the Kolis spend much of the day on their front steps, tending to daily tasks and socializing. Though the units have been elevated above the ground to accommodate rising sea levels, boat storage, and shared public space, The overhead corridors are semi-private porches - space that can be built into or left open as desired.*

## FRONT PORCH TERRACES





## IDEA OF THE TOWER



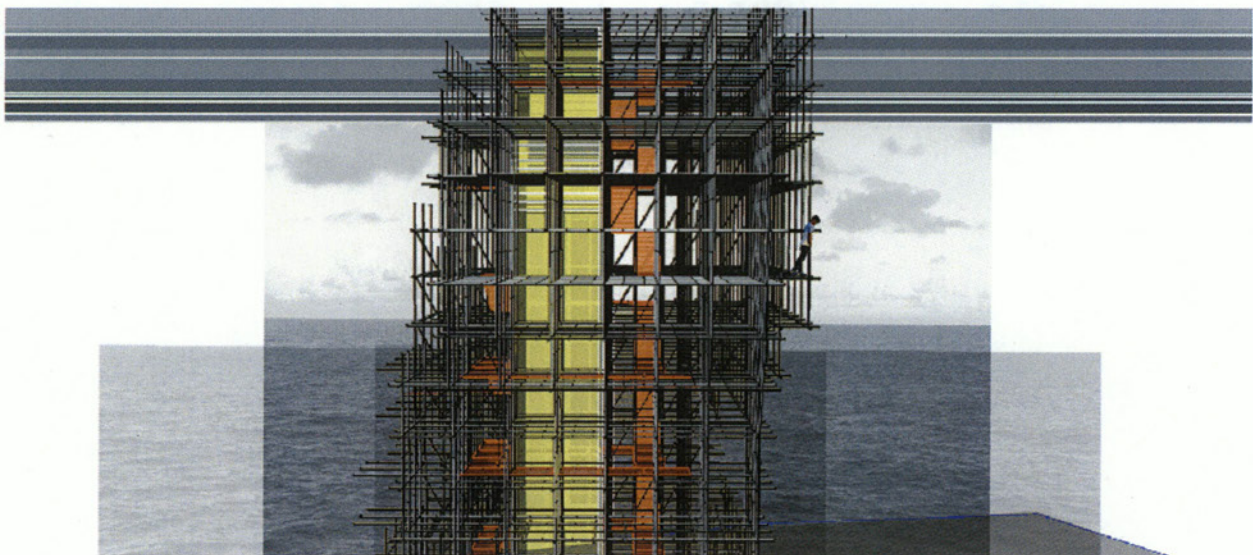
TOWER PLAN

*As the provocative conceptual counterpart to the housing proposal, there is a tower of bamboo in the form of scaffolding around a pillar of the bridge. This is ideal to maximize the viewing potential, as well as provide a vertical space for further informal development.*

*Climbing, wrapping, and expanding upward onto the existing structure of the city, the public viewing and private dwelling structure is symbolic of Mumbai's rapid urbanization, wherein the slums are growing faster than any market-rate development.*

*As it reaches toward the wealthy Bandra side of the bay, it is a visual and physical reminder that the socio-economic gap must be bridged for a successful future. The tower will be an attraction for local tourists, bringing a boost to the local economy and providing Kolis with an opportunity to share their way of life with others.*

## VIEWING TOWER



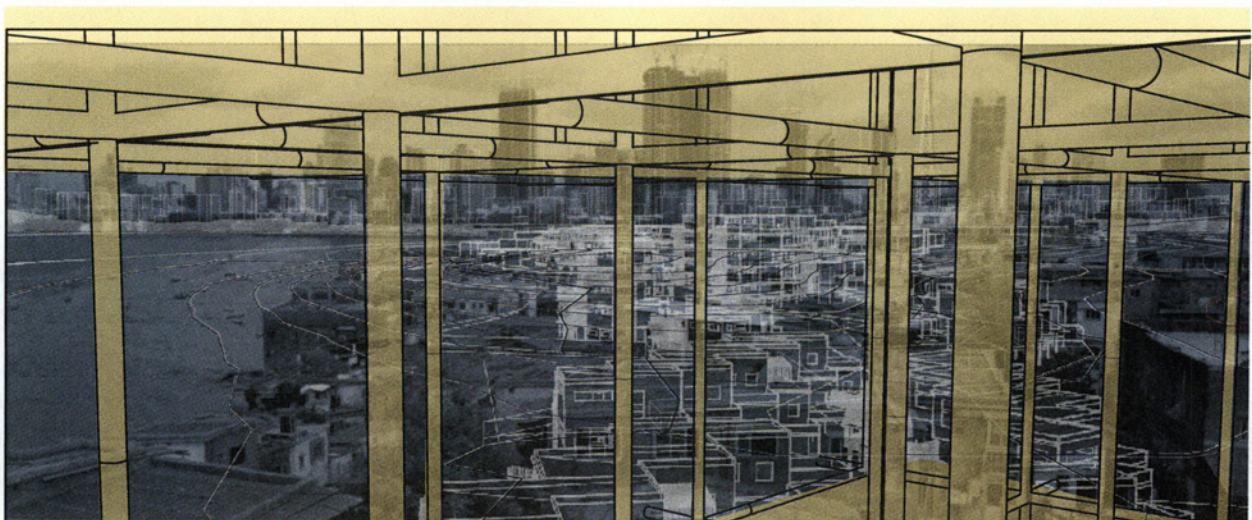
## CONCLUSION: ROLE OF THE ARCHITECT

*It is not in built forms alone that successful architecture exists*

*One winning project in the Dencity Competition in 2016 proposed floatation devices using the plastic waste that collects in Mumbai (Fulcher). This idea that two architects suggested does not require the intervention of professionals; a floated island of recycled materials is easily constructed by citizens.*

*Answers to the questions of complex living conditions are not solely tied to architecture. As with that winning Dencity proposal, the intervention efforts addressed the social and economic context. A floating device is not architectural design, but architectural forms were not necessary to create a positive impact.*

VIEW FROM TOWER

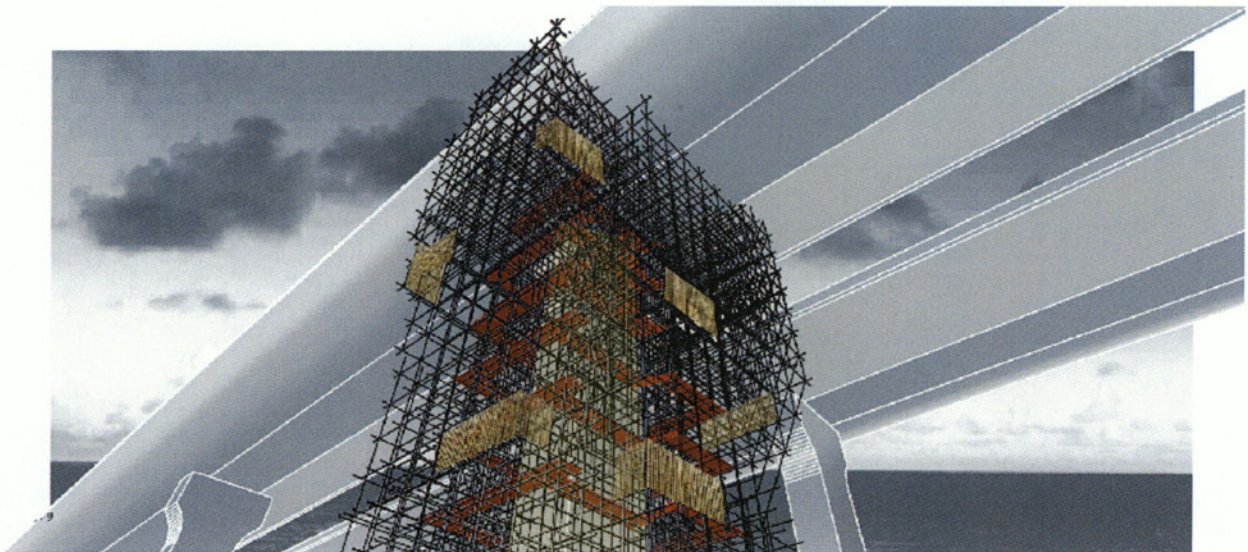




*Architects are not providers, but facilitators. We facilitate the people's process – providing only the skeletal framework for social systems to occur and be altered.*

*We can participate in their lives - not them participating in ours. By first understanding the strengths of the context and community, we designers can alter the process by which people interact with low-income neighborhoods and the "economically weaker section."*

## INFORMAL INFILL



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